

## ABSTRAK

### PRARANCANGAN PABRIK *ORDINARY PORTLAND CEMENT* (OPC) KAPASITAS 33.000 TON/TAHUN (Perancangan *Rotary Kiln* (RK-01))

Oleh

**MILIAN ASHABIO**

Pabrik *Ordinary Portland Cement* (OPC) berbahan baku *Limestone*, *Clay*, *Iron Material* dan *Gypsum*. Direncanakan didirikan di Desa Oyengsi, Kecamatan Nimboran, Kabupaten Jayapura, Provinsi Papua. Pendirian pabrik berdasarkan atas pertimbangan ketersediaan bahan baku, sarana transportasi yang memadai, tenaga kerja yang mudah didapatkan dan kondisi lingkungan.

Pabrik direncanakan memproduksi 33.000 ton/tahun *Ordinary Portland Cement* (OPC), dengan waktu operasi 24 jam/hari, 330 hari /tahun. Bahan baku yang digunakan adalah 6453,426 kg/jam *limestone*, 3665,3 kg/jam *clay*, 204,362 kg/jam *iron material* dan 208,333 kg/jam *gypsum*.

Bentuk perusahaan adalah Perseroan Terbatas (PT), menggunakan struktur organisasi *line* dan *staff* dengan jumlah karyawan sebanyak 138 orang.

Dari analisis ekonomi diperoleh :

<i>Fix Capital Investment</i>	(FCI)	= Rp. 113,774,856,732
<i>Working Capital Investment</i>	(WCI)	= Rp. 62,815,194,011.09
<i>Total Capital Investment</i>	(TCI)	= Rp. 209,383,980,037
<i>Break Even Point</i>	(BEP)	= 40,04 %
<i>Pay Out Time before taxes</i>	(POT)b	= 1,58 tahun
<i>Pay Out Time after taxes</i>	(POT)a	= 1,73 tahun
<i>Return on Investment before taxes</i>	(ROI)b	= 28,87 %
<i>Return on Investment after taxes</i>	(ROI)a	= 25,99 %
<i>Discounted Cash Flow</i>	(DCF)	= 28,39 %

Mempertimbangkan paparan diatas, sudah selayaknya pendirian pabrik *Ordinary Portland Cement* (OPC) ini dikaji lebih lanjut, karena merupakan pabrik yang menguntungkan dan mempunyai masa depan yang baik.

## ABSTRACT

### MANUFACTURING OF *ORDINARY PORTLAND CEMENT (OPC)* WITH CAPACITY 33.000 TONS/YEAR (Design of Rotary Kiln (RK-01))

By

**MILIAN ASHABIO**

Ordinary Portland Cement (OPC) with materials limestone, clay, iron material and gypsum is planned to be built in Nimboran, Jayapura. Establishment of this plant is based on some consideration due to the raw material resources, the transportation, the labors availability and also the environmental condition.

This plant is meant to produce 33.000 tons/year Ordinary Portland Cement with operation time 24 hour/day, 330 hour/year. Raw materials used consist of 6453,426 kg/jam *limestone*, 3665,3 kg/jam *clay*, 204,362 kg/jam *iron material* dan 208,333 kg/jam *gypsum*.

The bussines entity form is Limited Liability Company (Ltd) using line and staff organizational structure with 138 labors.

From the economic analysis, it is obtained that:

<i>Fix Capital Investment</i>	(FCI)	= Rp. 113,774,856,732
<i>Working Capital Investment</i>	(WCI)	= Rp. 62,815,194,011.09
<i>Total Capital Investment</i>	(TCI)	= Rp. 209,383,980,037
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Considering the summary above, it is proper to study the establishment of Sodium Hydrogen Carbonate plant further, because the plant is profitable and has good prospects.